



Oil & Commodity Prices

Higher volatility
and risk of large
decline in 2019H1

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Oil and commodity prices: higher volatility and risk of large decline in 2019H1

TAC ECONOMICS tools for commodity outlook



- Set of quantitative techniques
 - Statistical analysis on long periods to detect trends and cycles
 - Complex *Datamining Tool* for oil price projections up to 12-18 months ahead, complemented by a simple *Inventory Model* based on relationship with cumulated excess supply or demand
 - Econometric equations for price indexes of different categories of commodities (metals, NFA, Food, beverages)
- A qualitative observation of exogenous factors and implications from technological changes
 - Geopolitical risks (Middle East, transportation routes, strategic stockpiles)
 - Broad trends (GCC and demand / supply, innovations and production costs...)

Oil and commodity prices: higher volatility and risk of large decline in 2019H1

TAC ECONOMICS tools for commodity outlook and key results



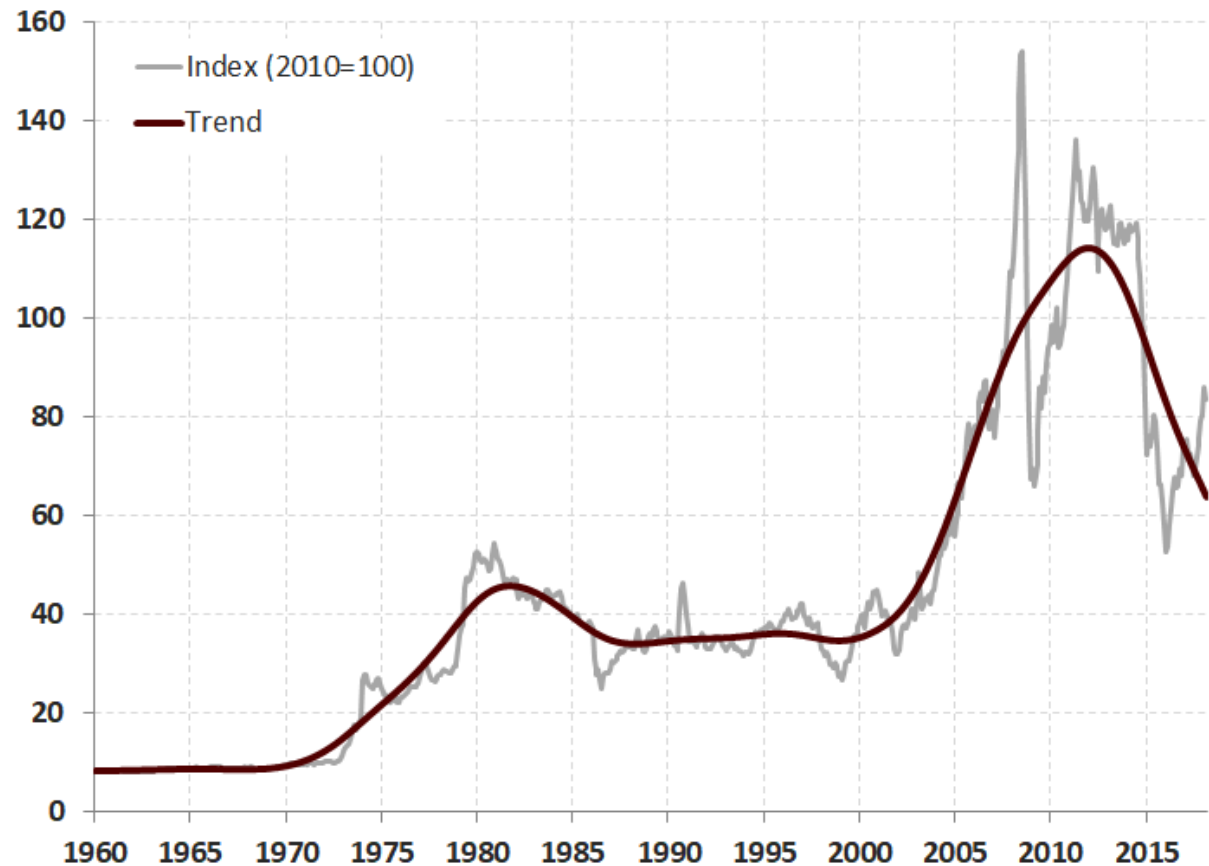
1. MT trend of declining commodity prices still on-going, with increasing differences across commodities and upward ST cyclical movements since 2016.
2. Closeness-to-trend, time-duration and magnitude of cyclical deviation from trend suggest rising prices for a few quarters, except for oil, before getting into a cyclical price reversal;
3. Our price projection models also show positive year-on-year increases for all groups of commodities (except oil / energy) expected up to the first part of 2019, before heading south and turning negative later in 2019.
4. This is consistent with our macro-scenario of sustained demand and growth in 2018 and a high likelihood of global economic reversal and weakness in 2019.
5. With heavy influence from US production, oil prices are expected to hover irregularly around 60\$/bl, with potential spikes upwards in relation to geopolitical events and a likelihood of substantial decline in 2019.

Oil and commodity prices

Overall commodity price index : LT trends and ST oscillations

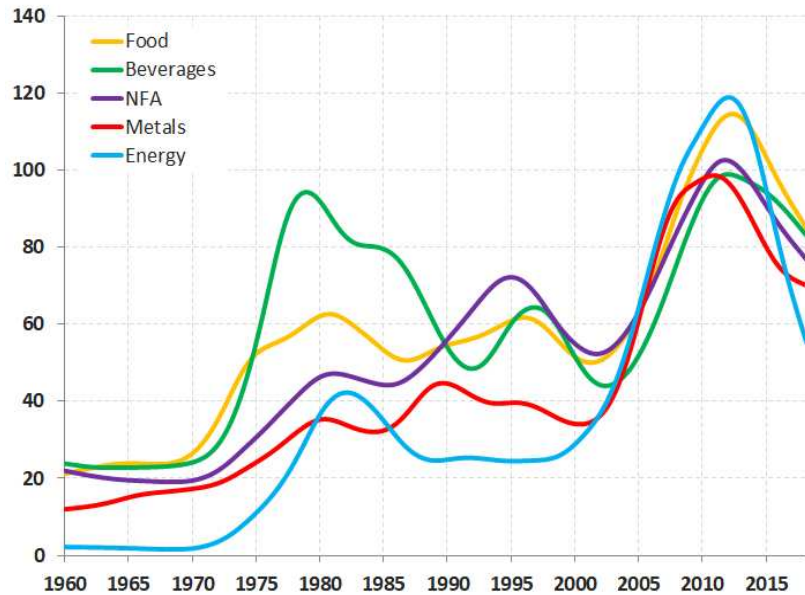


- Long-term trends consistent with micro-foundation of raw material economics (differences in time frame for changes demand and supply)
- The negative trend that started around 2010 is coming closer to a “stabilization level” but initial signs of trend reversal are not yet seen
- After excessive declines, commodity prices have enjoyed a ST cyclical upward movement since early 2016



Oil and commodity prices

LT trends and decorrelations imply higher heterogeneity in prices



Correlations 1960-1974

	Food	Beverages	NFA	Metals	Energy
Food	1.00				
Beverages	0.94	1.00			
NFA	0.87	0.86	1.00		
Metals	0.81	0.86	0.74	1.00	
Energy	0.90	0.89	0.84	0.76	1.00

Correlations 1975-2001

	Food	Beverages	NFA	Metals	Energy
Food	1.00				
Beverages	0.14	1.00			
NFA	0.40	-0.31	1.00		
Metals	0.45	-0.12	0.53	1.00	
Energy	0.30	0.03	0.06	0.12	1.00

Correlations 2002-2014

	Food	Beverages	NFA	Metals	Energy
Food	1.00				
Beverages	0.90	1.00			
NFA	0.92	0.94	1.00		
Metals	0.78	0.75	0.84	1.00	
Energy	0.92	0.82	0.87	0.86	1.00

Correlations 2015-2017

	Food	Beverages	NFA	Metals	Energy
Food	1.00				
Beverages	0.20	1.00			
NFA	0.38	0.28	1.00		
Metals	0.36	-0.48	0.36	1.00	
Energy	0.46	0.02	0.73	0.76	1.00

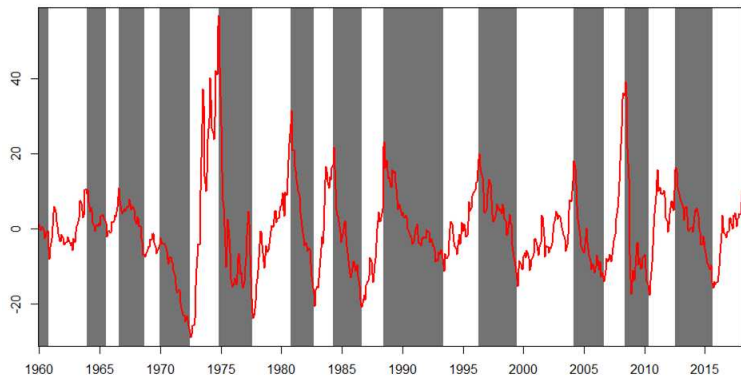
- LT trends are more negative for energy, more positive for metals
- Specific conditions for each commodity is likely to prevail over “across-the-board trends” as shown by rapid decorrelation in different price indexes

Oil and commodity prices

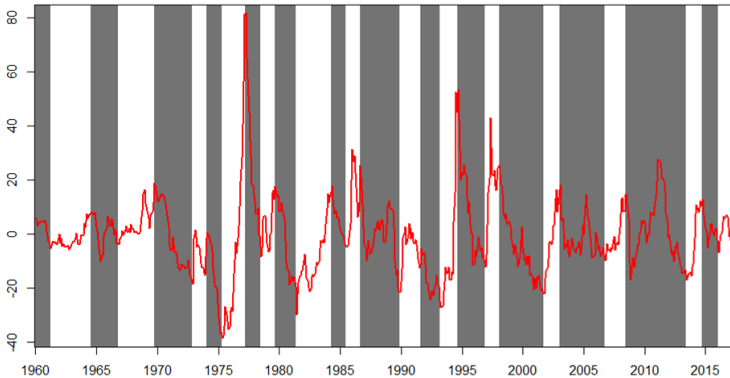
Cyclical characteristics



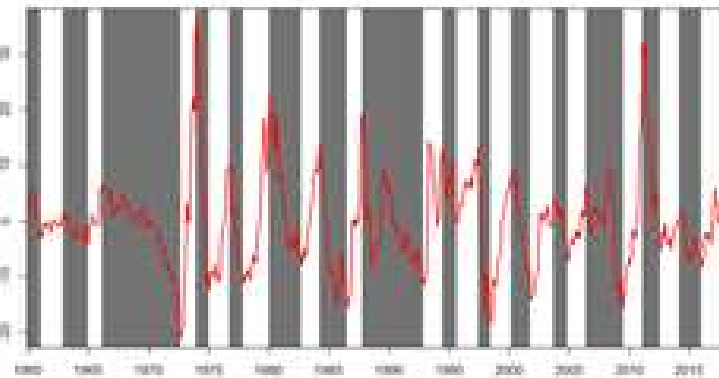
Food



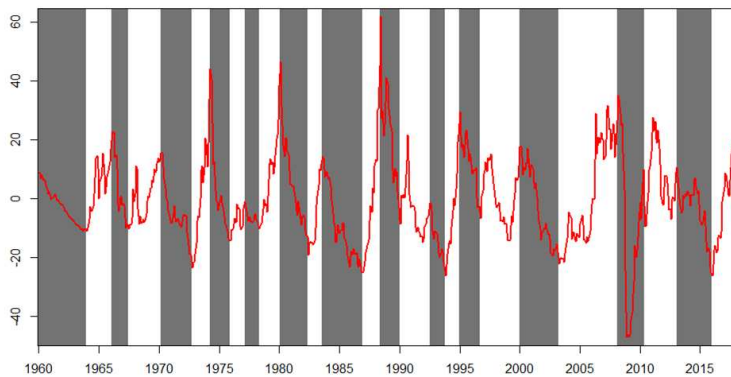
Beverages



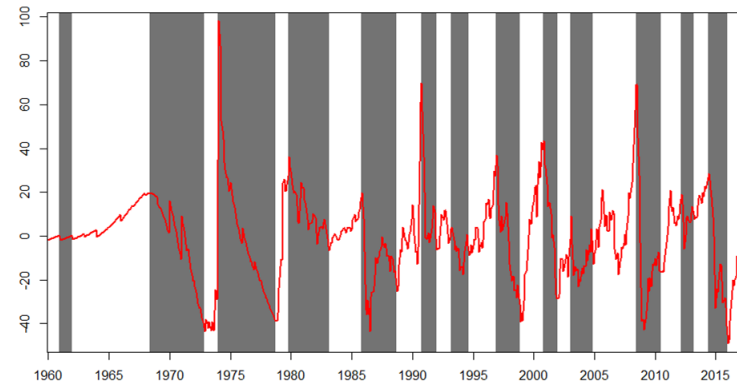
Non-food agricultural



Metals



Energy



Oil and commodity prices

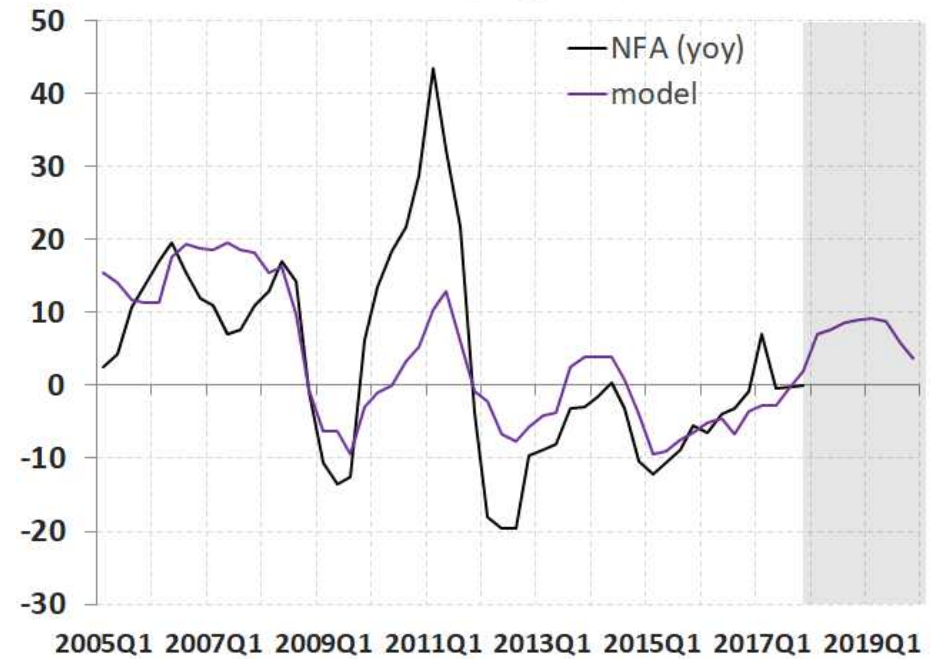
Econometric projections for commodity prices



Metals - YoY growth

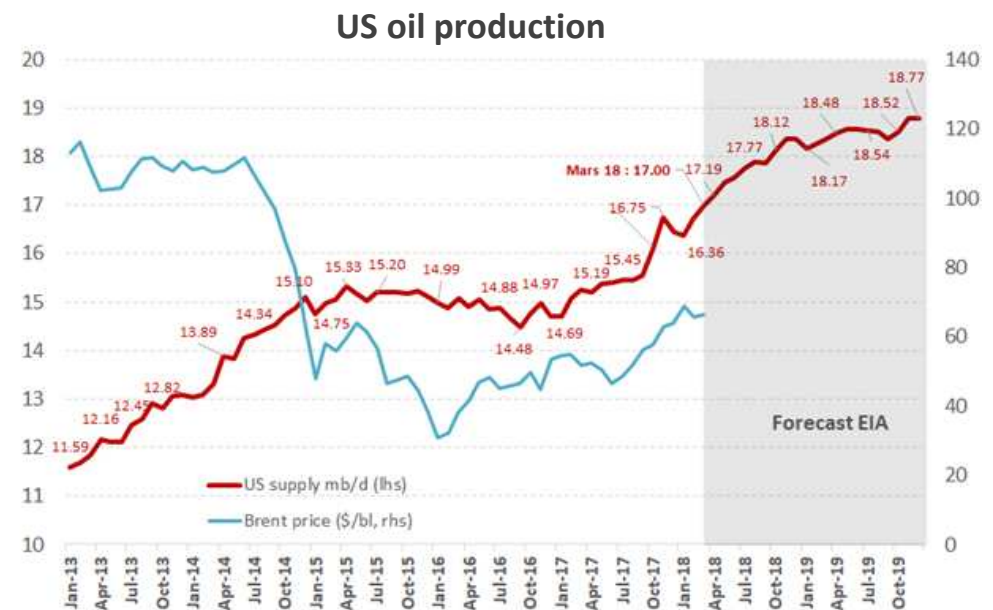
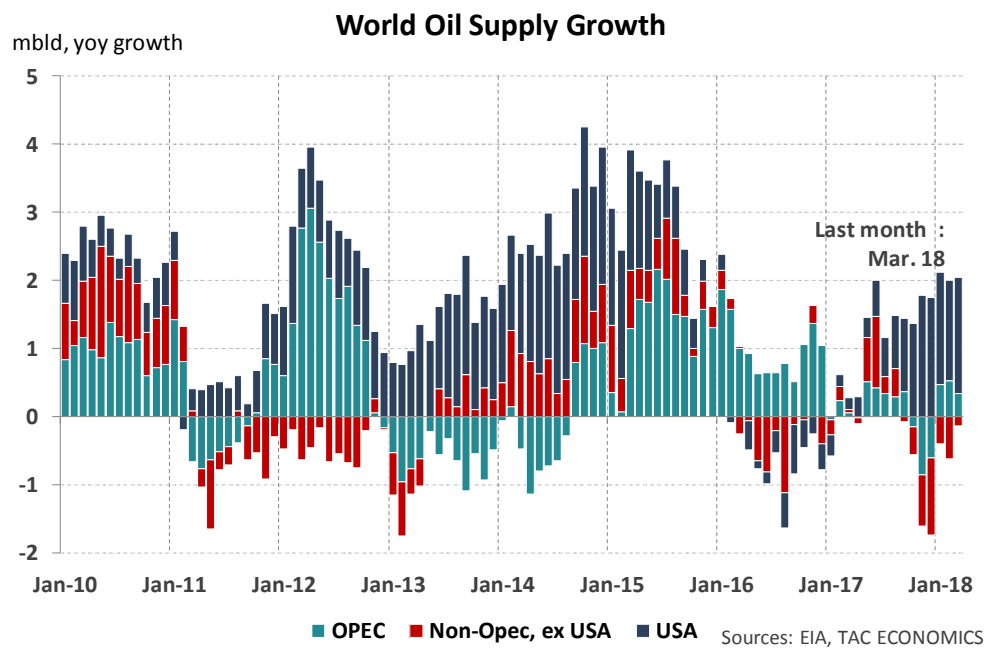


NFA - YoY growth



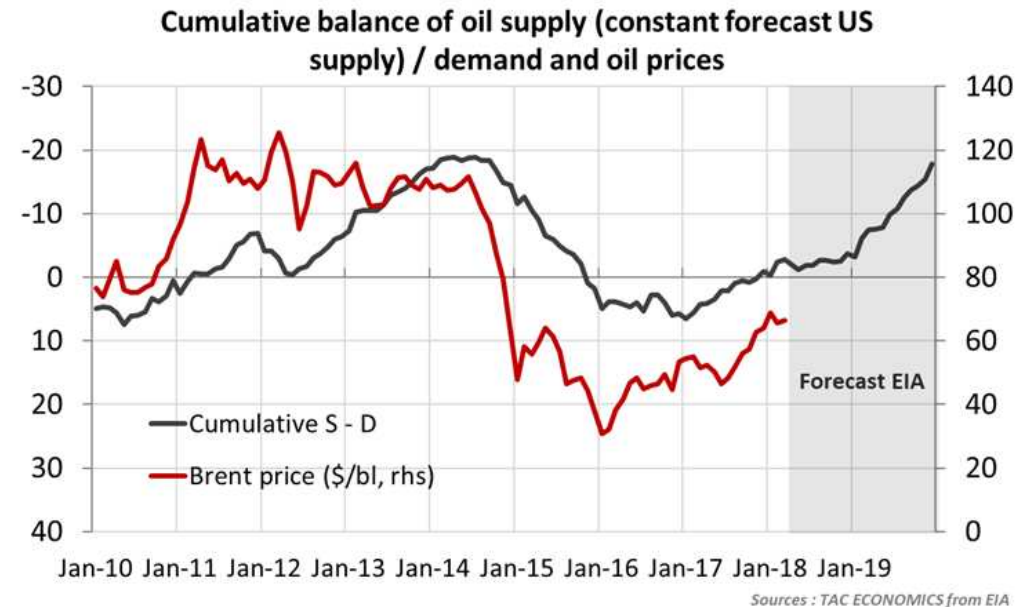
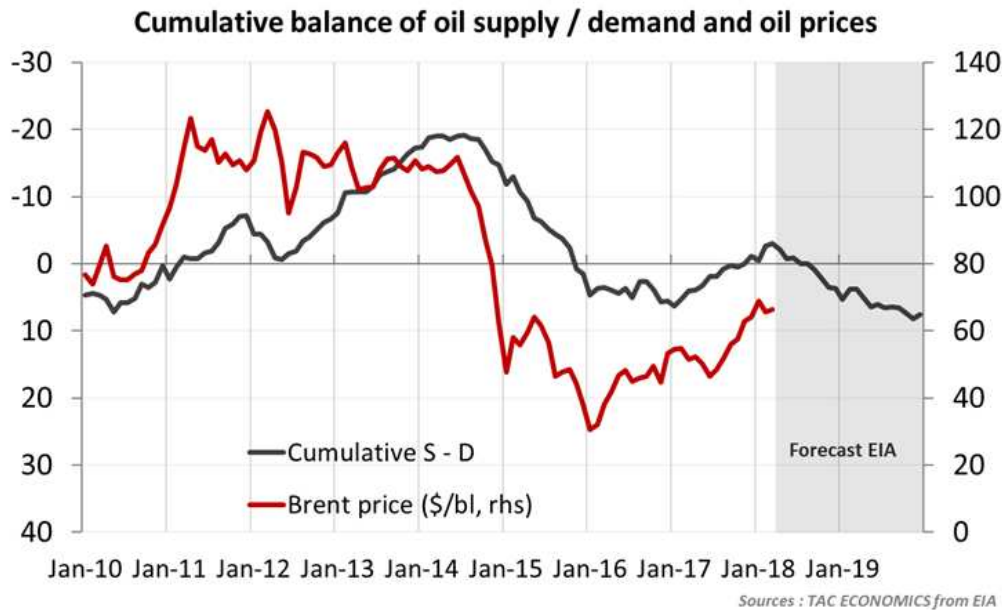
Oil and commodity prices

Oil markets: critical role of US production



Oil and commodity prices

Oil markets: critical role of US production, through our *Inventory Model*

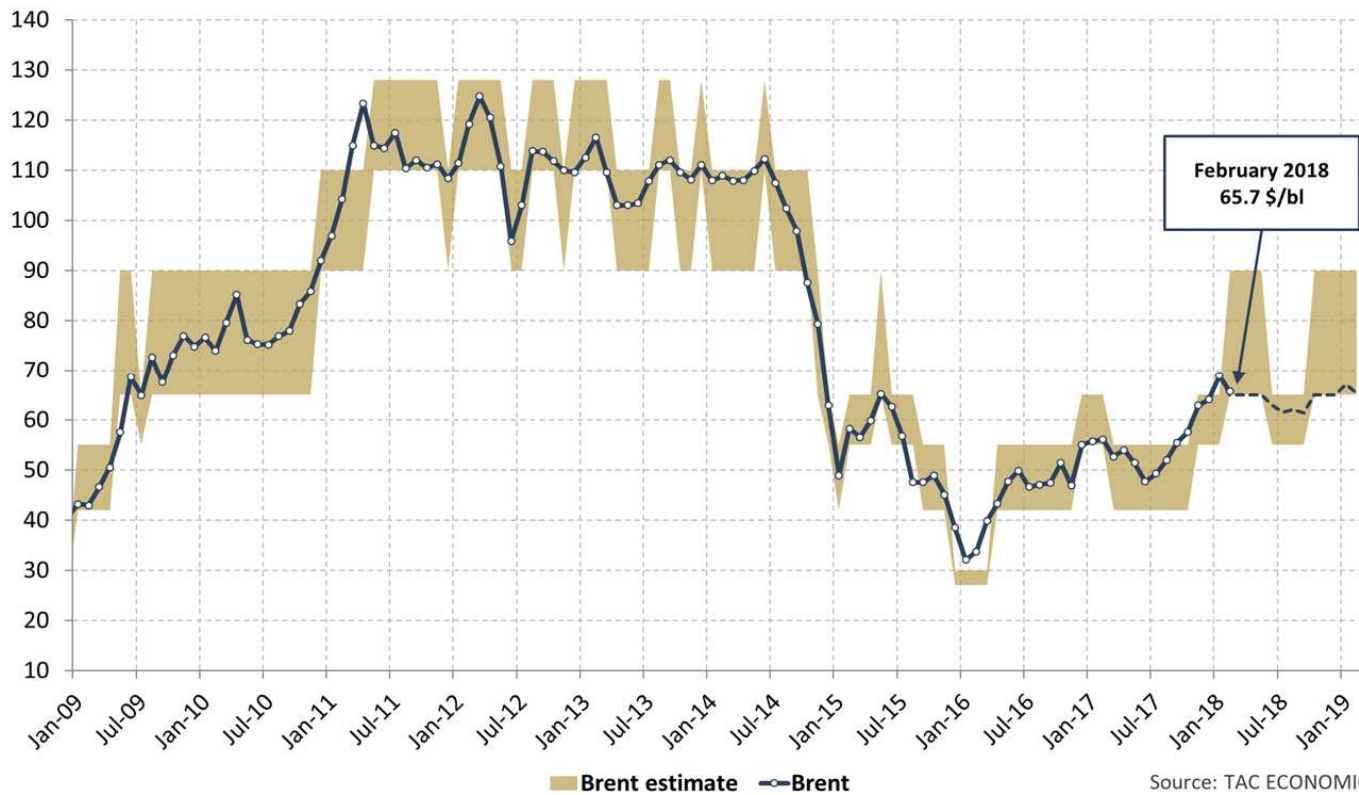


Oil and commodity prices

Oil markets: Datamining model



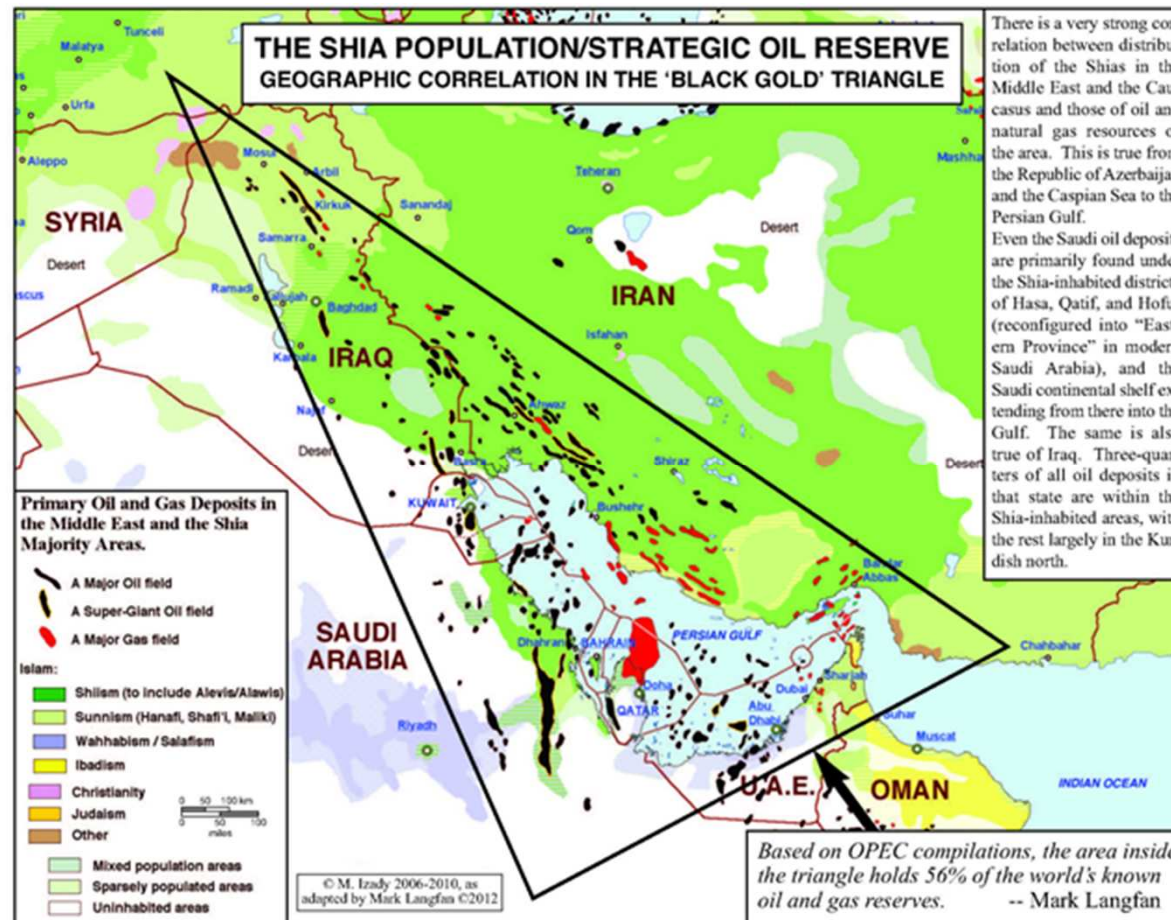
TAC Brent short-term Projections (\$/bl)

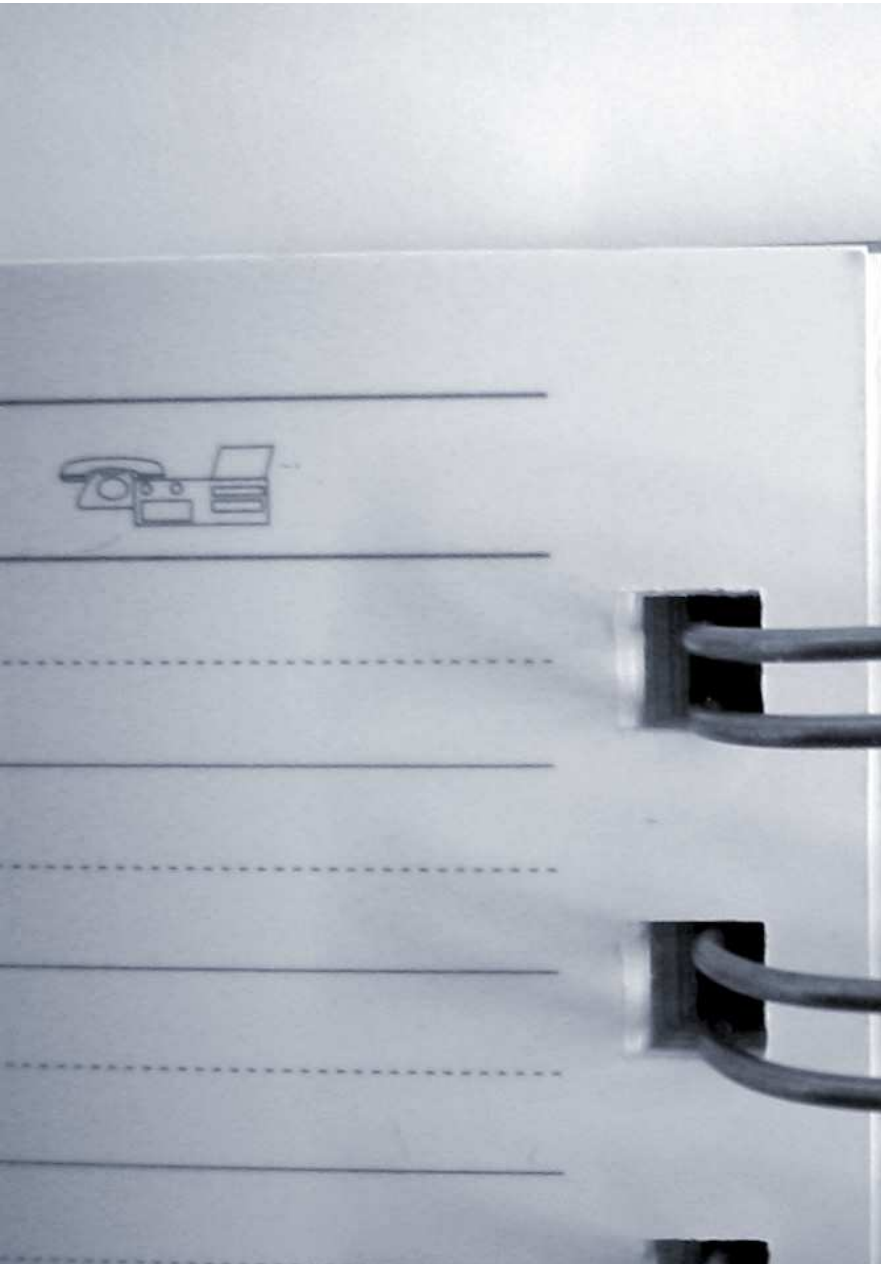


Source: TAC ECONOMICS

Oil and commodity prices

Oil markets: geopolitics and *my favorite map*





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